

# Occupational Health Indicators in North Dakota

*A Baseline Occupational Health Assessment 2004 - 2010*

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# Presentation Outline

## ND Occupational Health Indicators (OHIs)



- Background
- Rationale
- Methods
- Results
- Recommendations
- Next Steps?

# Occupational Health and Safety Surveillance

- Identifies specific cases of work-related illness, injury, or hazardous exposure that require a public health response
- Identifies illness and injury patterns
  - Magnitude and contributors of specific injuries/illnesses
  - Allows for establishment of priorities for interventions
- Monitors trends over time
- Helps evaluate the effectiveness of programs and interventions



# Background

National Institute for Occupational Safety and Health and Council for State and Territorial Epidemiologists (CSTE) Collaboration

- Criteria for selecting indicators
  - Availability of easily obtainable state-wide data
  - Public health importance
  - Potential for workplace intervention activities
- **20** Occupational Health Indicators (OHI) and **10** demographic measures chosen by consensus



# Occupational Health and Safety in ND

- Employment increased since 2004
  - A variety of workplaces where exposures, injuries illnesses can occur
- No current state-wide occupational health and safety surveillance system
  - ND is interested but lacking resources (both funding and personnel)
  - They do have a small pilot grant to track Oil and Gas injuries

# ND OHI Project Purpose

- To describe baseline occupational health and safety status of workers in ND using the OHIs
  - Understand state occupational illness and injury burden:
  - Communicate key issues and needs to state leaders and solicit support
  - Build capacity for occupational health surveillance in ND



# **Approach and Goals**

1. Identify state and national data sets
2. Develop a systematic approach
3. Collect and compile available data
4. Describe the status of worker health
5. Determine gaps in the data
6. Define the greatest needs
7. Determine priorities
8. Communicate with State Leaders/Decision makers
9. Recommend future directions

# Methods

OHI data collection

## *CSTE Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and their Determinants*

- Significance
- Specific methods
- Results
- Limitations
- Recommendations





# Methods

## Workers compensation sources

### DETAILED CLAIMS & INJURY CHARACTERISTICS

**For Fiscal Years 2004 - 2008**



 **North Dakota  
Workforce Safety  
& Insurance**  
*Putting Safety to Work*

1600 E Century Ave Ste 1  
PO Box 5585  
Bismarck ND 58506-5585  
(701) 328-3800 1-800-777-5033

[www.WorkforceSafety.com](http://www.WorkforceSafety.com)

### Workers' Compensation: Benefits, Coverage, and Costs, 2008



**September 2010**  
**NATIONAL  
ACADEMY  
OF SOCIAL  
INSURANCE**  
**Washington, DC**

# Results

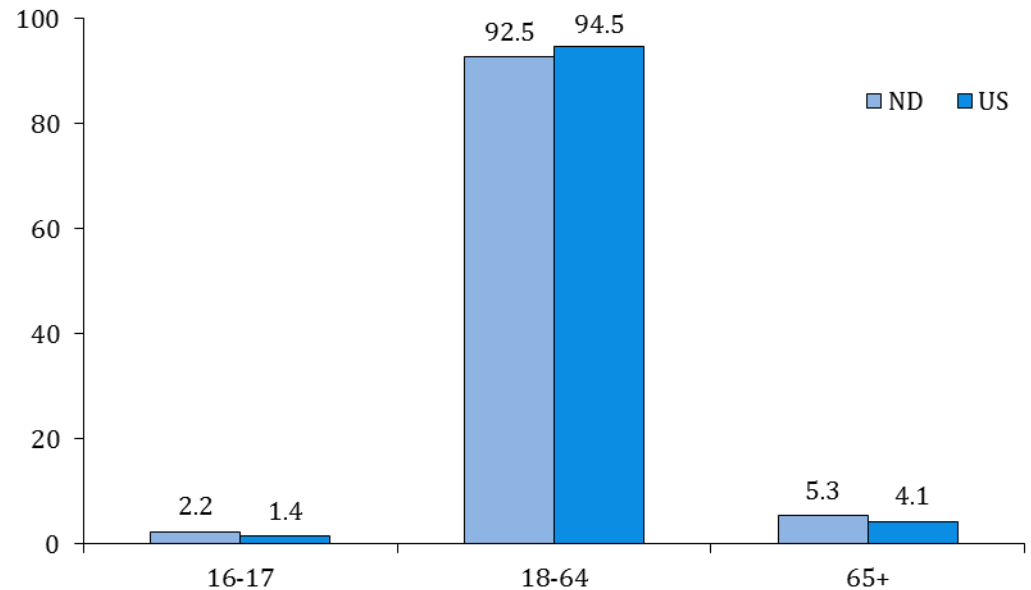
## ND OHIs

- Of 20 indicators
  - 17 completed
  - 1 not publicly available (#2)
  - 2 data not available in ND (#4, #13)

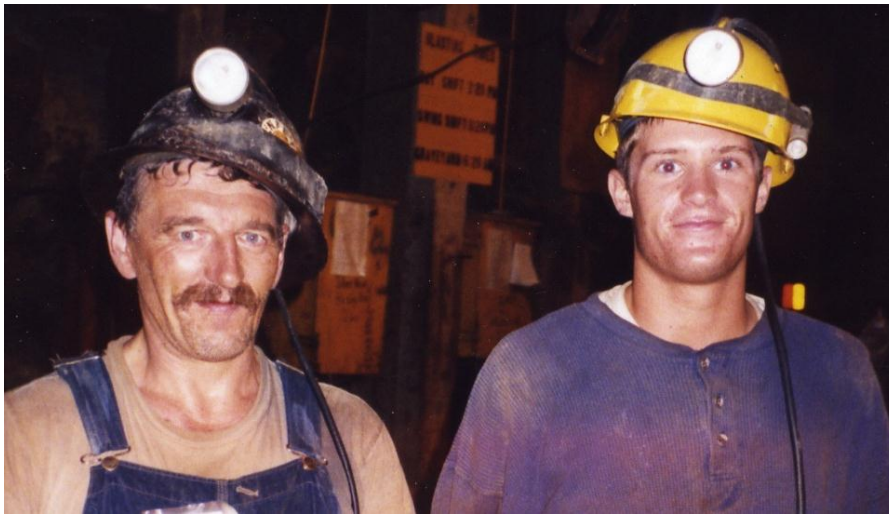


# ND Employment Demographic Profile, 2004-2011

Percent employed workforce by age

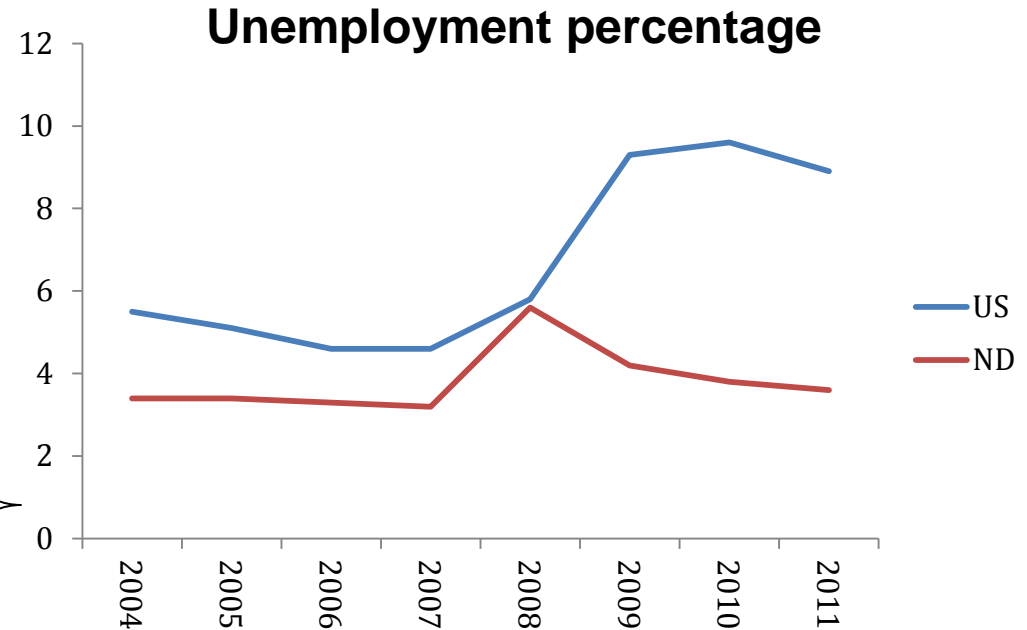


- 92.5% between 18 – 64
- 53% male
- 93% White

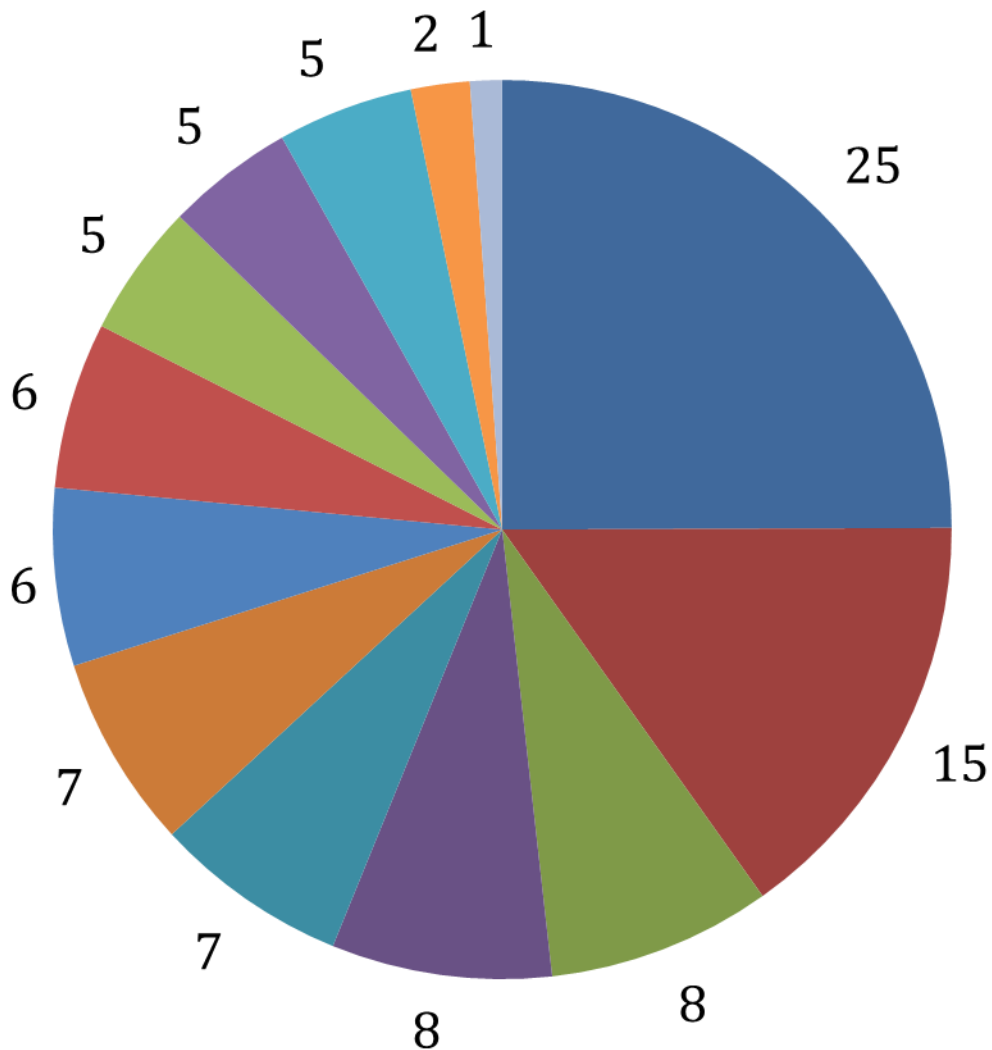


# ND Employment Demographic Profile, 2004-2011

- 63% full-time +
- 11% self-employed
- 3.2%-5.6% unemployed

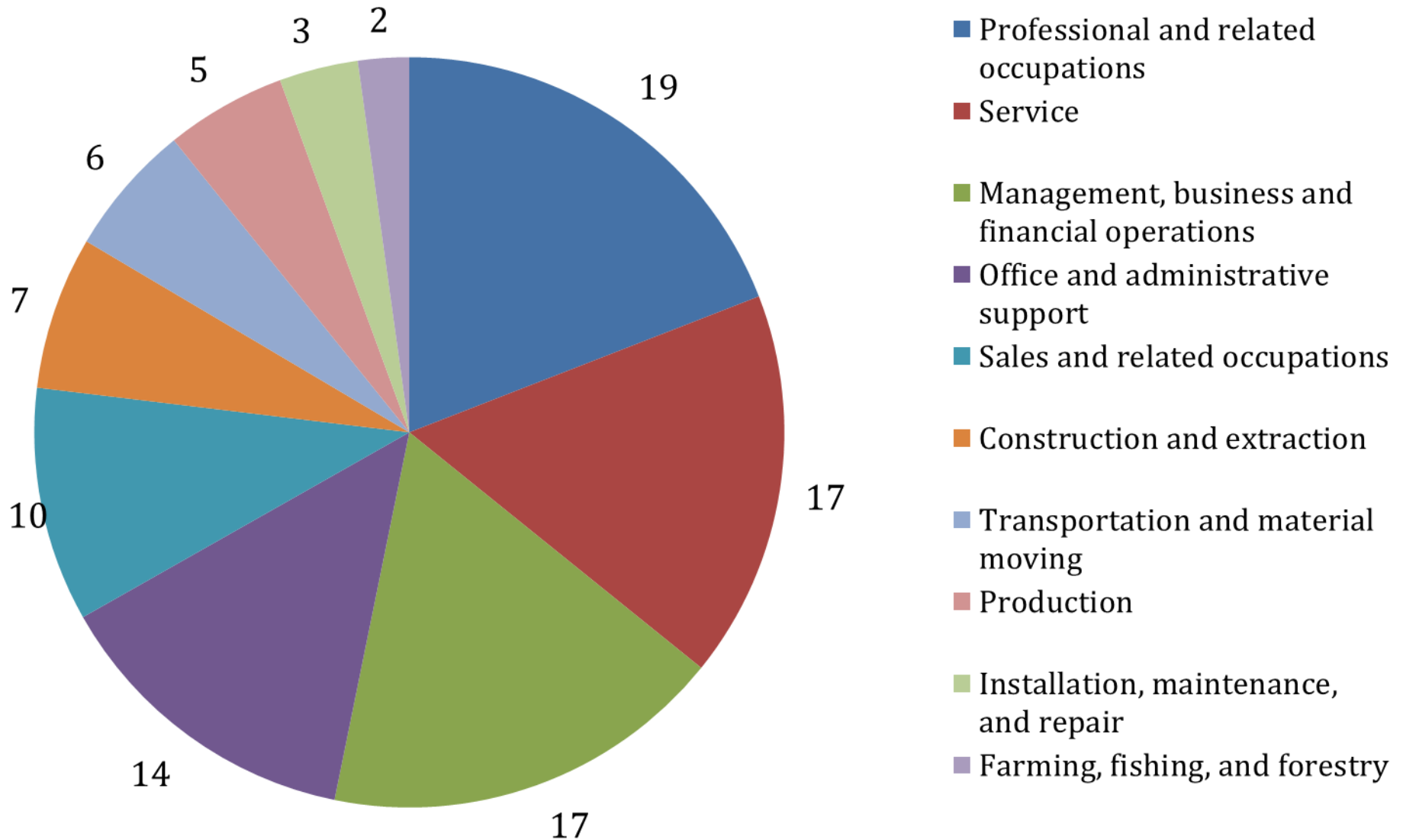


## % Civilian Employment by Industry



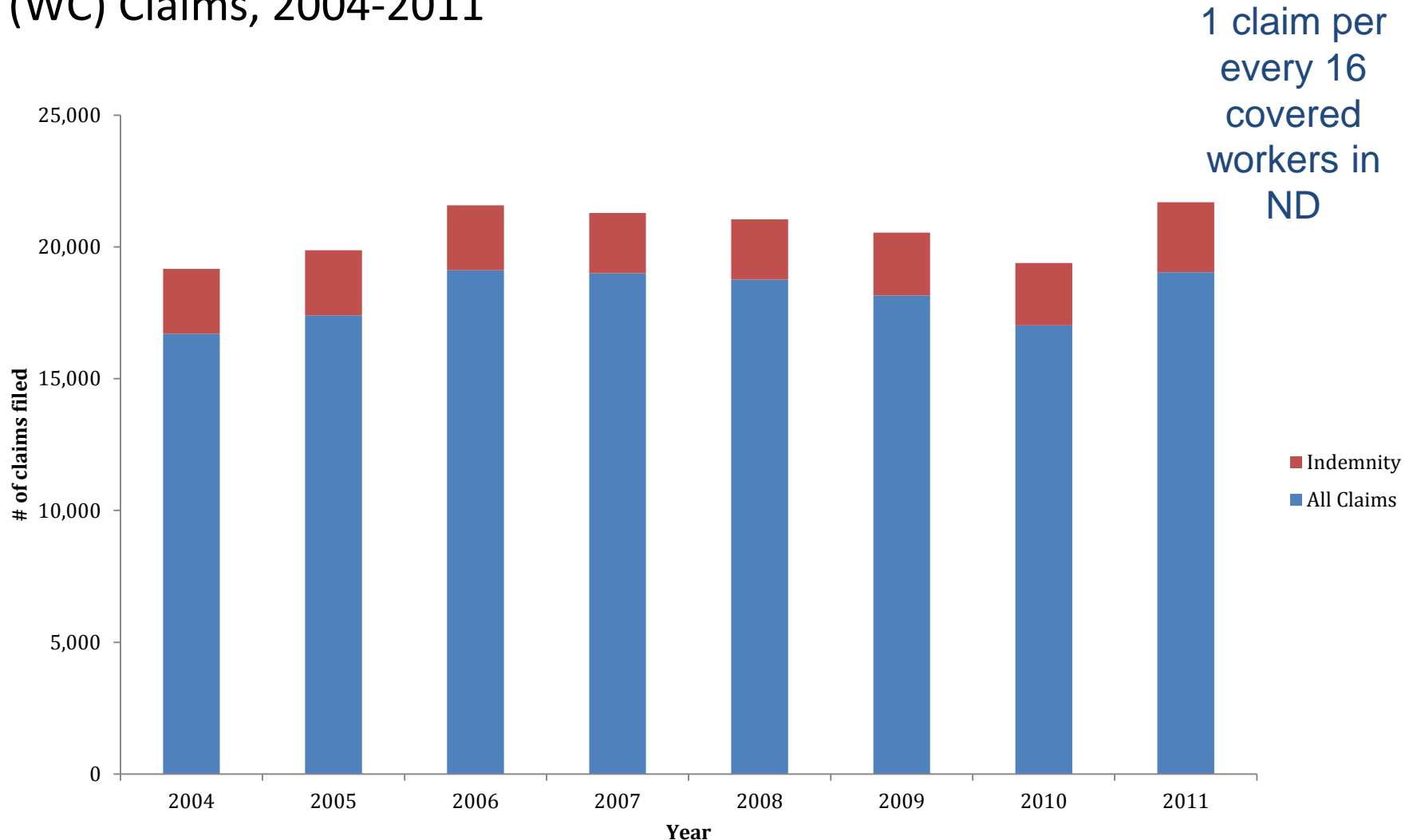
- Education and health services
- Wholesale and retail trade
- Agriculture and related
- Leisure and hospitality
- Construction
- Manufacturing
- Professional and business services
- Financial activities
- Transportation and utilities
- Other services

## % Civilian employment by occupation



## Indicator #1:

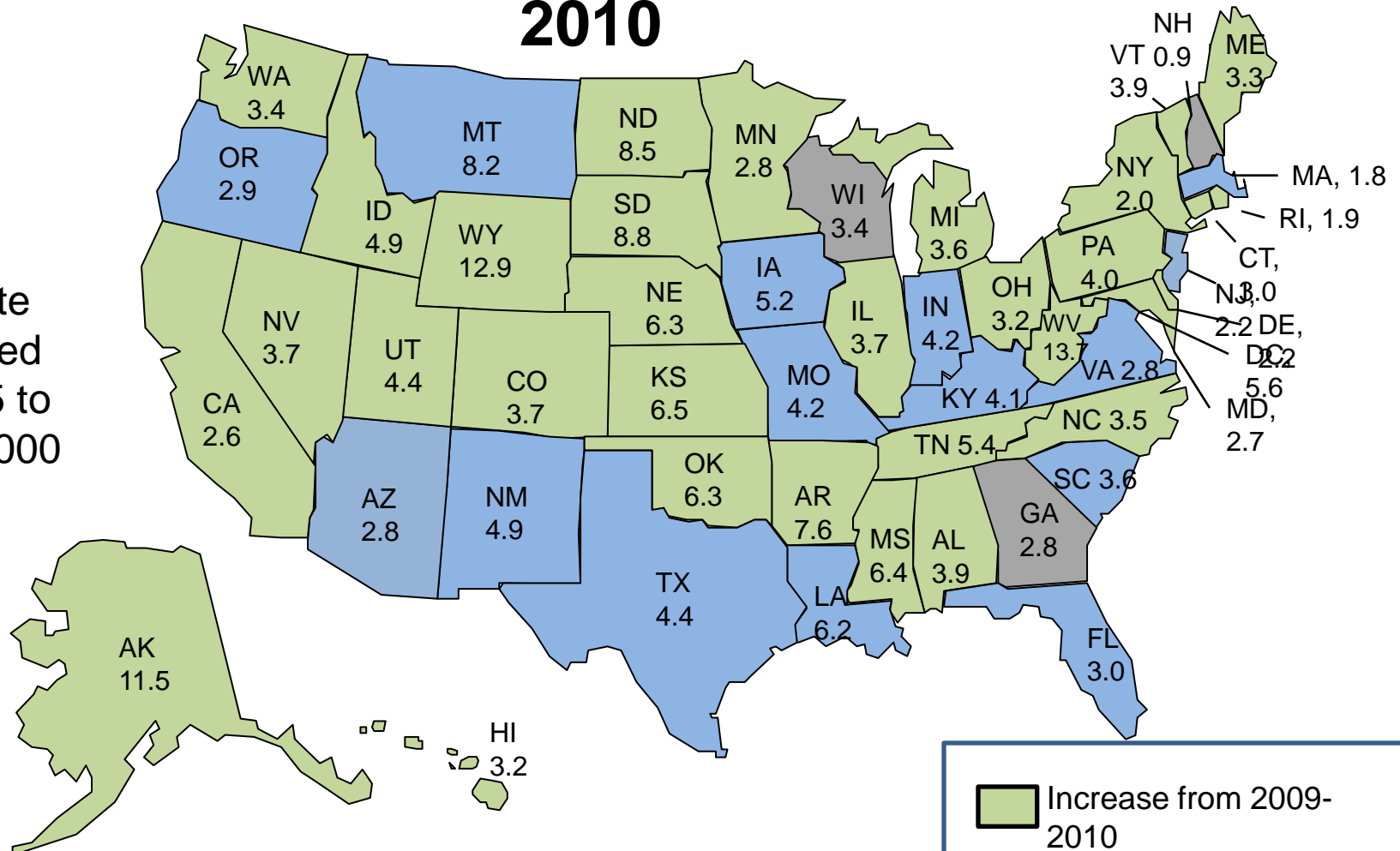
### Non-fatal work-related injuries & illnesses Workers' Compensation (WC) Claims, 2004-2011





# Fatal work injury rates/100,000 FTE, by State, 2010

US Rate  
increased  
from 3.5 to  
3.6/100,000  
FTE



- The rate of fatal work related injuries increased in 32 States and the District of Columbia between 2009 and 2010
- The rate of fatal work related injuries decreased in 15 states between 2009 and 2010
- The rate remained the same for three states between 2009 and 2010

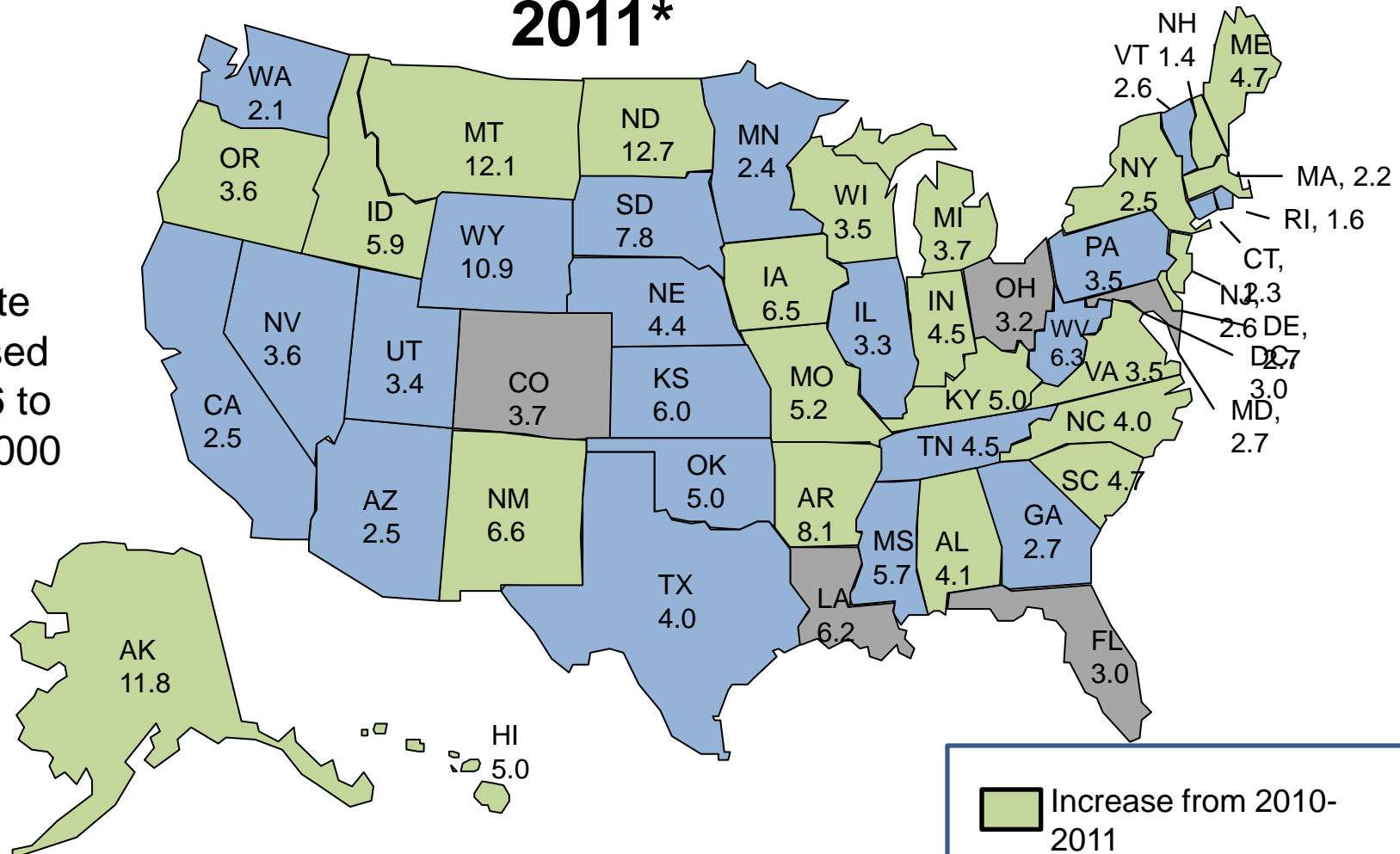
Source: US Bureau of Labor Statistics, US Department of Labor 2012





# Fatal work injury rates/100,000 FTE, by State, 2011\*

US Rate  
decreased  
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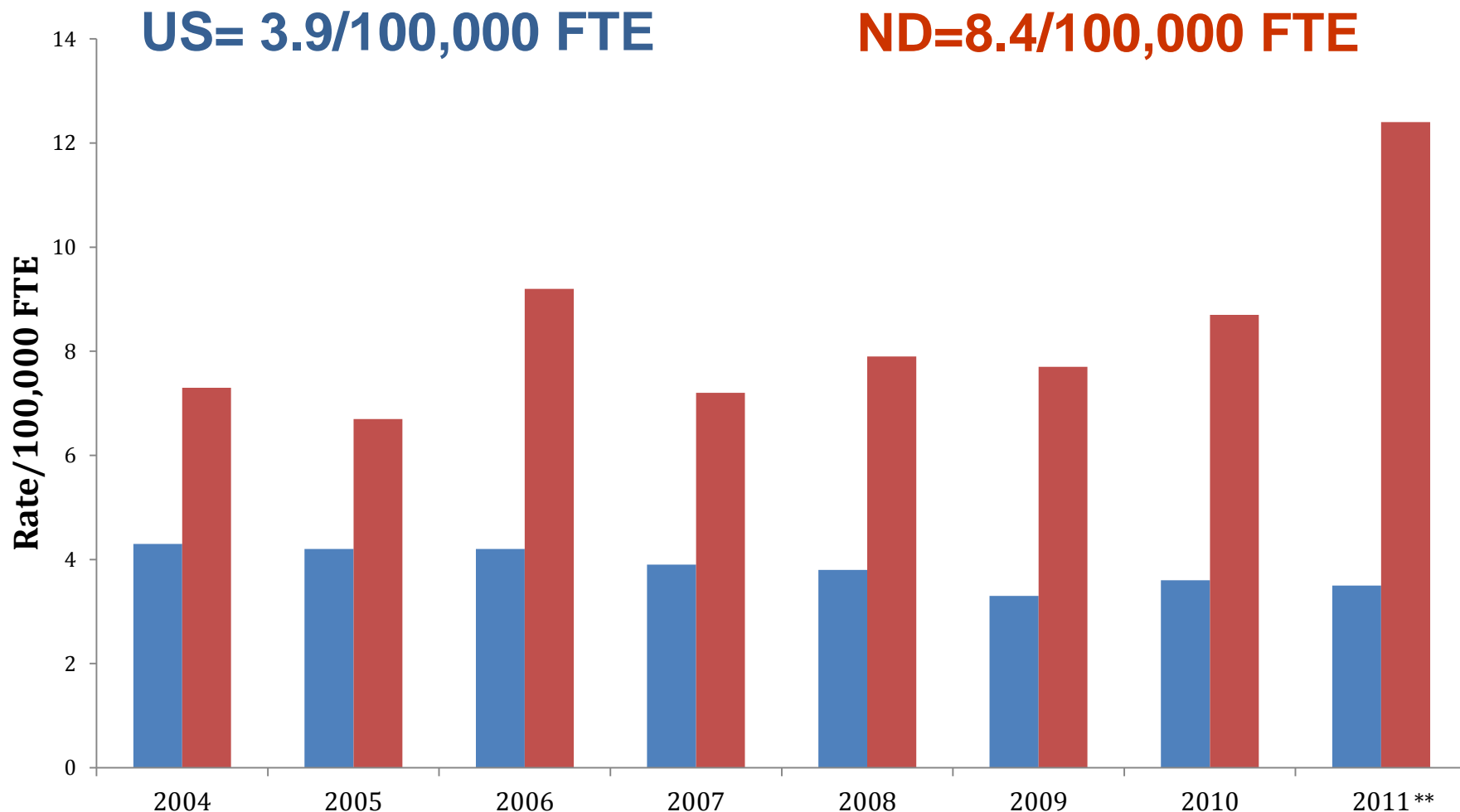


- The rate of fatal work related injuries increased in 24 States and the District of Columbia between 2009 and 2010
- The rate of fatal work related injuries decreased in 22 states between 2009 and 2010
- The rate remained the same for five states between 2009 and 2010

\* Data for 2011 are preliminary. Source: US Bureau of Labor Statistics, US Department of

## Indicator #3

### Rate of fatal work-related Injuries, 2004-2011



Source: Census of Fatal Occupational Injuries (CFOI); BLS Current Population Survey

\*\*2011 preliminary data- detailed statistics not available yet

## Indicator #6

### Hospitalizations From Work-related **Burns** (WC data)

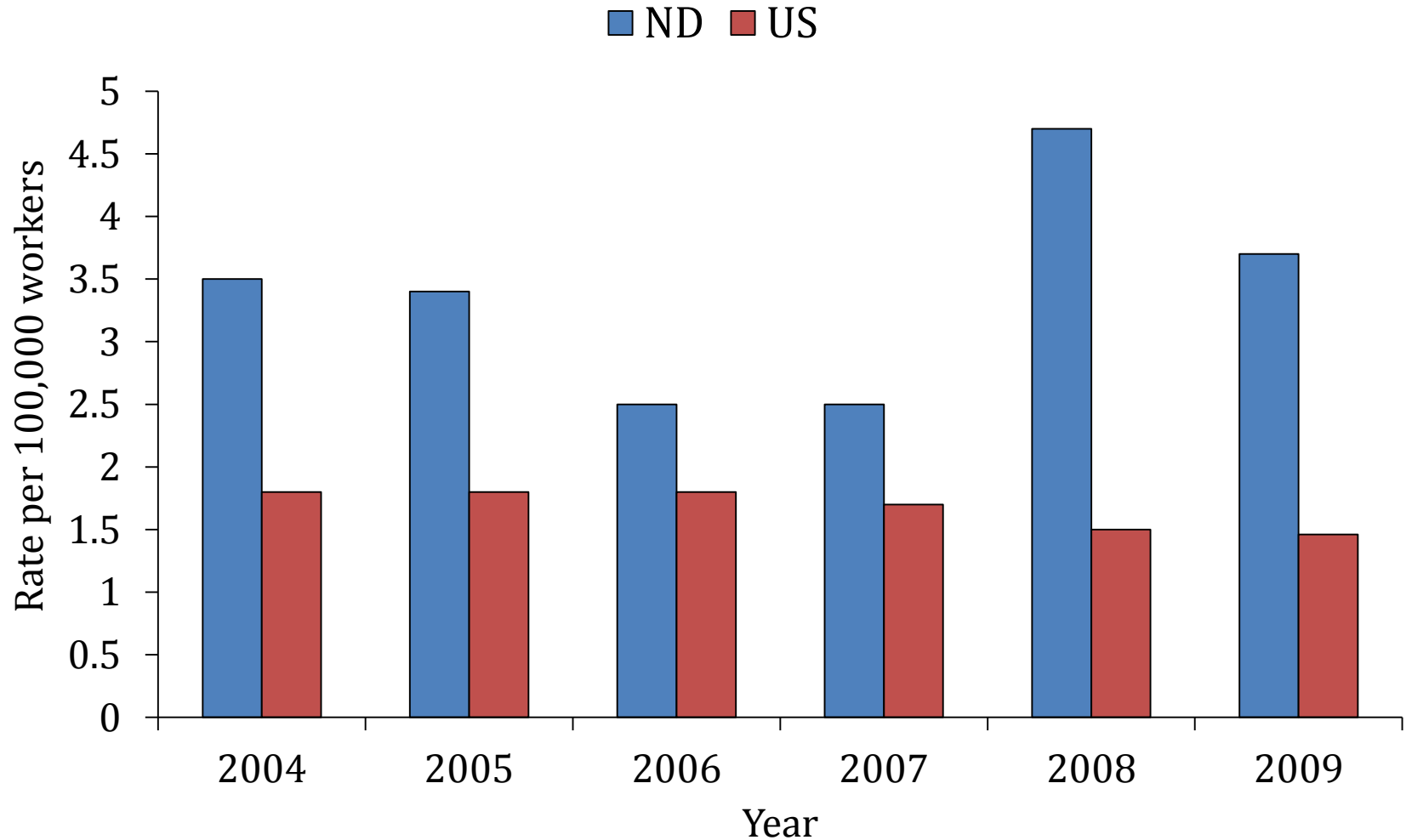
Number (incidence per 100K workers covered)

Year	All Claims	Indemnity Claims
2004	582 (191)	45 (15)
2005	640 (206)	50 (16)
2006	640 (201)	34 (11)
2007	664 (204)	37 (11)
2008	618 (186)	32 (10)
2009	573 (164)	33 (10)
2010	511 (142)	41 (12)
2011	643 (176)	51 (14)

Source: North Dakota Workforce Safety & Insurance

## Indicator #11

### Acute Work-related Pesticide Poisonings Reported to Poison Control Centers



## Indicator #16

Workers Employed in Industries with High Risk for Occupational Mortality

### % workers in high-risk Industries

Year	ND	US
2004	24.7	15.6
2005	23.8	16.0
2006	24.0	16.3
2007	25.0	16.3
2008	26.8	16.6
2009	24.9	15.8
2010	26.1	15.4
2011	25.1	15.5

### Some of the Highest Risk Industries in ND

- Construction
- Crop Production
- Animal Production
- Support Activities for Mining
- Truck Transportation

## Indicator #16

Workers Employed in Occupations and Industries with High Risk for Occupational **Mortality**

### % of workers in high risk occupations

Year	ND	US
2004	20.0	10.8
2005	20.0	11.2
2006	19.4	11.4
2007	19.5	11.4
2008	19.9	13.0
2009	19.7	12.4
2010	18.8	12.3

### Some of the Highest Risk Occupations in ND

- Farmers
- Drivers/Sales Workers and Truck Drivers
- Nursing, psychiatric, and home health aides
- Construction Laborers
- Janitors and building cleaners

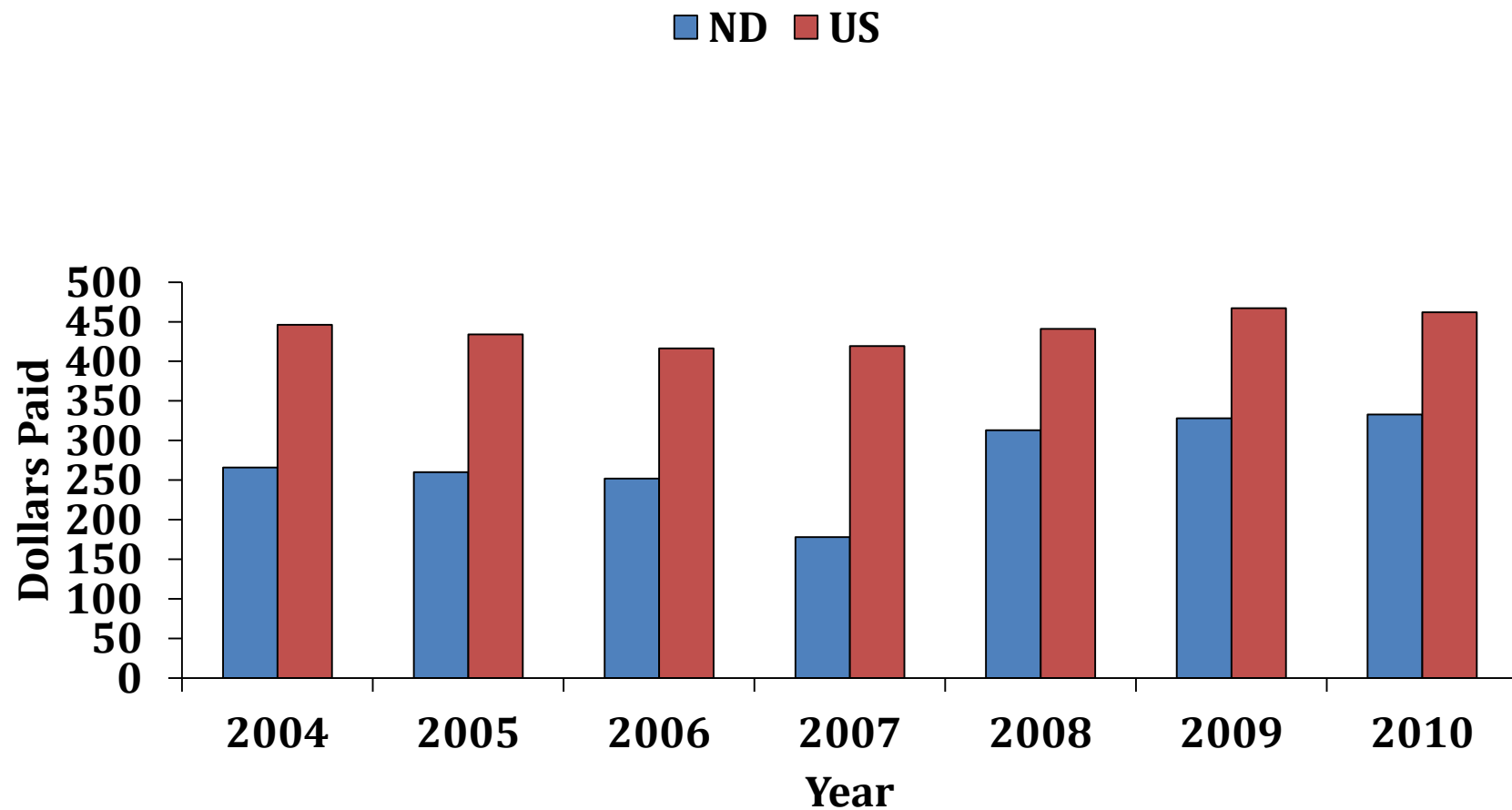
## Indicator #17

# Average Number and Rate of Occupational Safety and Health Professionals per 100,000 workers, ND and the US, 2004-2009

	ND #, (Rate)	US #, (Rate)
Occupational medicine physicians	1.5 (.4)	2,777 (1.9)
Occupational health nurses	5.8 (1.7)	6,377 (4.4)
Industrial hygienists	4.2 (1.2)	7,016 (4.9)
Safety professionals	13.3 (3.8)	11,291 (7.9)

## Indicator #19

### Workers' Compensation Benefits

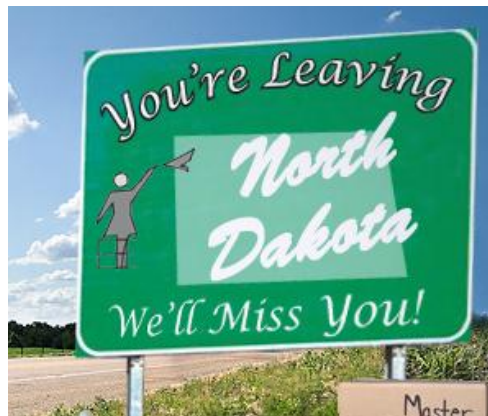


Adapted from National Academy of Social Insurance (NASI)



# Summary

- High, increasing fatal work-related injury rate
- Increasing workers compensation claims
- Work-related pesticide poisonings increasing
- Higher percentage of high-risk industries and occupations
- Lower average benefit paid per worker covered



# Gaps in data

- Non-fatal work related illnesses and injuries (SOII)
- Hospitalization data
- ABLES (Adult Blood Lead)
- Target populations/Disparities
  - Ag workers, rural areas



# Recommendations

- Take a closer look at the data we have
- Address the gaps in the data
- Identify and collaborate with other agencies interested in OSH
  - NIOSH Western States Office, MAPERC
- Participate in relevant OSH surveillance activities
- Look into establishing a OSH program
  - CSTE/NIOSH minimum state based-activities
- Actively seek funding



# ***Who is the National Institute for Occupational Safety and Health (NIOSH)?***

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**Federal agency charged with  
Occupational Safety and Health (OSH) Research**

**Resides in:  
Department of Health and Human Services  
Centers for Disease Control and Prevention**

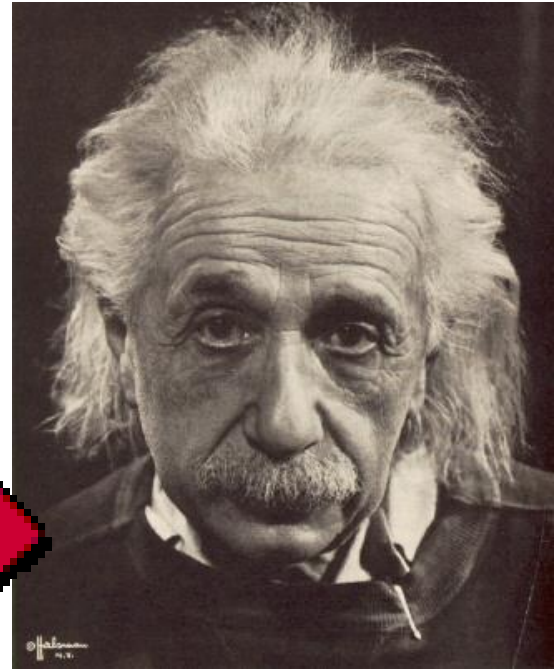
**<http://www.cdc.gov/niosh>**

# NIOSH's Role

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**NOT Enforcement...**



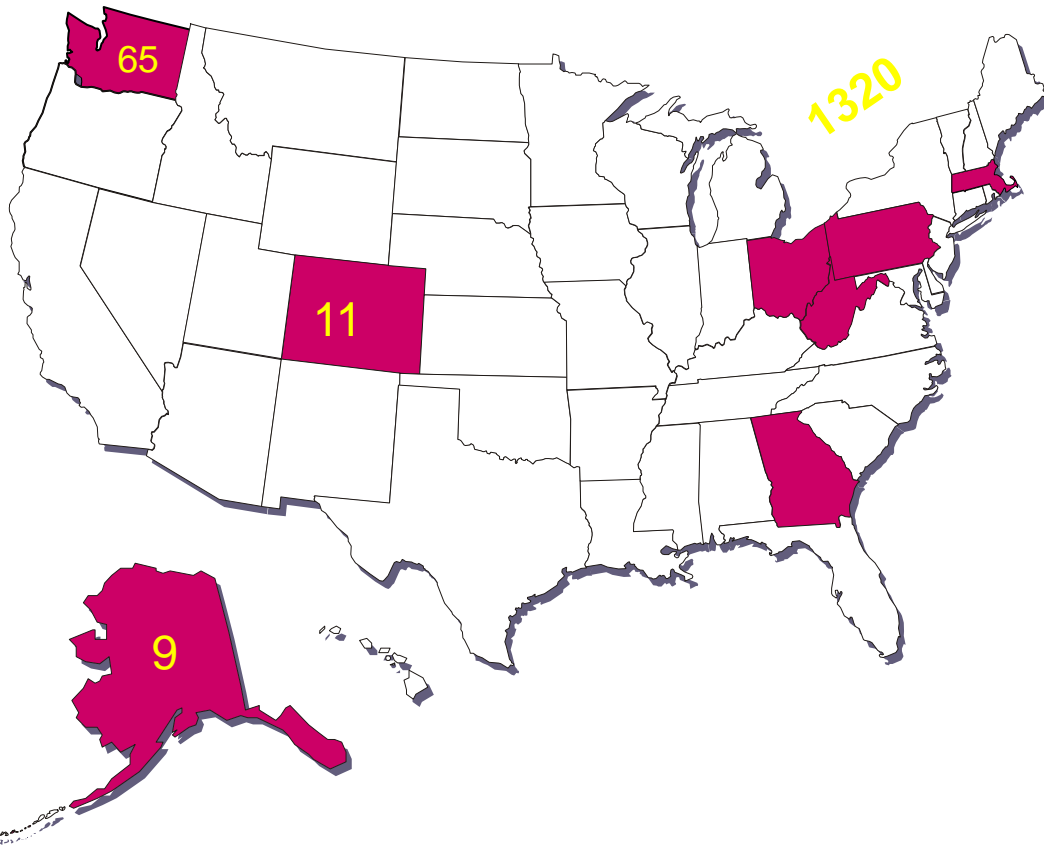
**but Scientific Research  
and Recommendations**



# NIOSH Locations

## ~1400 Employees

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**Anchorage, AK (Safety, Western OSH)**  
**Spokane, WA (Mining)**  
**Denver, CO (Western OSH)**  
**Cincinnati, OH (DSHEFS, EID, DART, OCAS)**  
**Morgantown, WV (DRDS, HELD, DSR)**  
**Pittsburgh, PA (NPPTL, Mining)**  
**Atlanta, GA (Emergency Response)**  
**Washington, DC (Director)**  
**Boston, MA (HHE)**

<http://www.cdc.gov/niosh/contact/officers.html>

# Western States Office Staff

**Director:** Max Kiefer

**Medical/Epi:**

Yvonne Boudreau, Jim Helmkamp,  
Dan Sharp, Corey Campbell

**IH, Safety:**

Eric Esswein, Edgar Reyes, Ryan  
Hill, Jason Burton

**Communications:** Liz Dalsey

**Administrative:** Isiah Ransom

303-236-6032



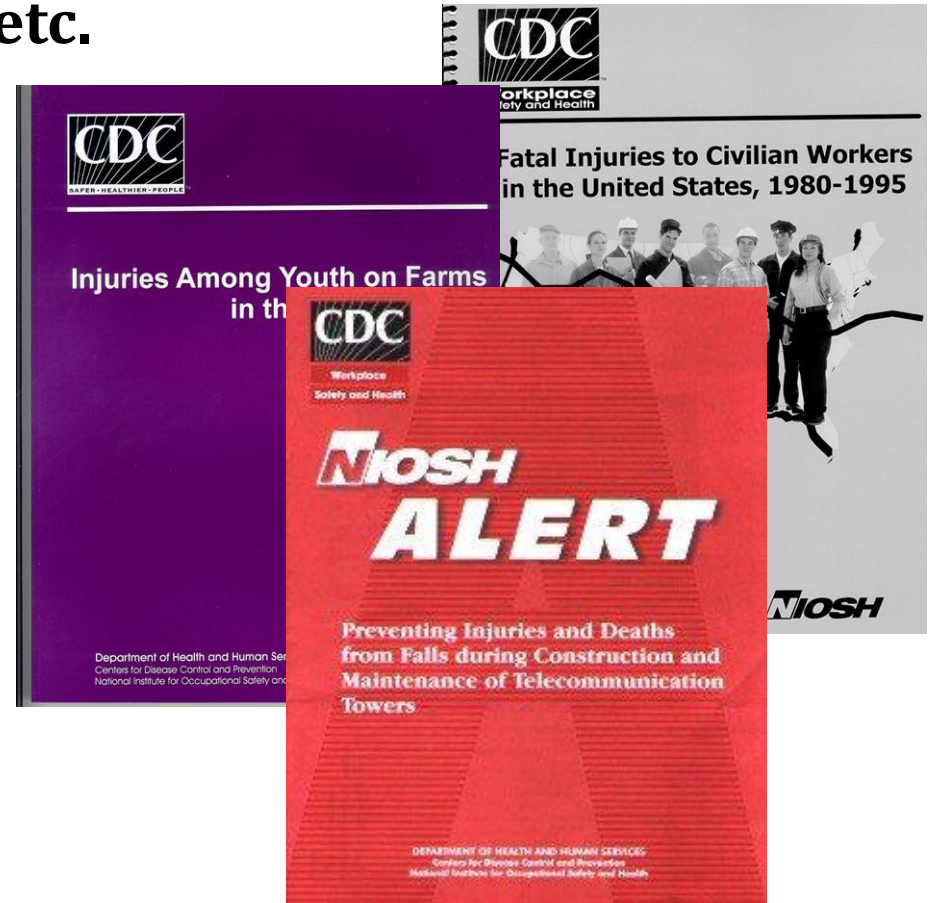
## **Current WSO Emphasis Areas**

- ❑ Support states in the West, particularly those with limited OHS capacity
- ❑ Collaborate with academic institutions; Education and Research Centers; Agriculture Research Centers; Local, State and other Federal Agencies
- ❑ Collect surveillance and epidemiologic data
- ❑ Conduct Field Evaluations and provide Technical Assistance
- ❑ Participate in fatality investigations (FACE, FFFIPP)
- ❑ Organize/attend conferences/meetings related to occupational health and safety in the West
- ❑ Conduct research related to Oil and Gas activities
- ❑ Emergency response

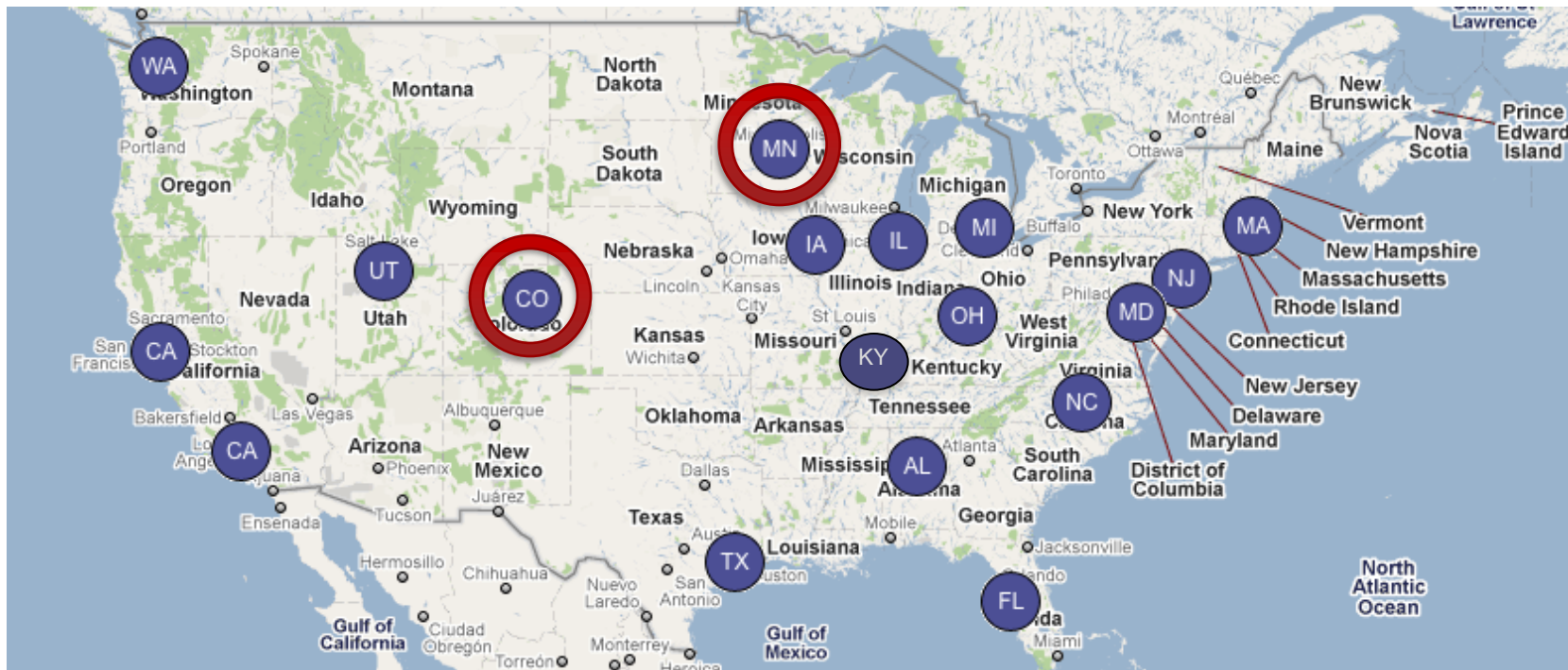


# Information

- Reports, alerts, updates, etc.
- Available to the public
- NIOSH Web site  
[www.cdc.gov/niosh](http://www.cdc.gov/niosh)



# NIOSH Funded Education and Research Centers



*A NIOSH Education and Research Center for  
Occupational & Environmental Health & Safety*



Midwest Center for Occupational  
Health and Safety - Education and  
Research Center

**Lee S. Newman, MD, MA**

ERC Director

**Stephen Reynolds, PhD, CIH**

ERC Deputy Director

**Susan G. Gerberich, PhD**

ERC Director

**Patricia M. McGovern, PhD**

ERC Deputy Director

# Vision & Mission

- **Vision:** To create a sustainable regional centers of excellence in occupational and environmental health and safety.
- **Mission:** To improve occupational and environmental health and safety through education, research and community partnerships



# What Is a “Center,” Anyway?



## Training Programs:

Industrial Hygiene  
Occupational and Environmental Medicine

- Occupational and Environmental Health Nursing
- Occupational Health Services Research and Policy
- Occupational Injury Prevention Research Training
- Hazardous Substance Academic Training
- Ergonomics
- Health Physics
- Occupational Health Psychology

## Core Values:

- Interdisciplinary Collaboration
- Diversity
- Research to Practice

## Continuing Education Program

## Outreach Program

## Pilot Grants Program

# Continuing Education

- Online & In-Person Trainings
  - Hazardous Materials Training
  - Preparedness Training
- Tools & Guides
- Public Health Institute
- Roundtable Series



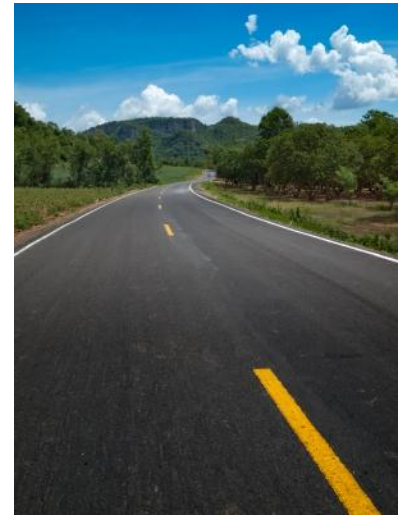


# Pilot Project Funding

Annual funding of Pilot research projects & research to practice (r2p) projects- \$5K - \$20K/year

Areas of Emphasis:

- Research-to-practice
- NORA
- Underserved populations
- Interdisciplinary focus



## **Transportation Risks on High Mountain Roads**



## **Pesticide Exposures to Farmers and Their Families**



## **Reducing the Burden of Injuries On Agricultural Operations**



## **Taconite Workers Health Study**



Drs. Ramachandran and Raynor and doctoral student, Jooyeon Hwang

# ACKNOWLEDGMENTS

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***DISCLAIMER*** *The contents of this effort are solely the responsibility of the authors and do not necessarily represent the official view of the Centers for Disease Control and Prevention or other associated entities.*



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